

Draft Decision

Essential Energy

Electricity Distribution

Determination 2024 to 2029

(1 July 2024 to 30 June 2029)

Attachment 16

Alternative Control Services

September 2023

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16 Alternative control services

This attachment sets out our draft decision on prices Essential Energy is allowed to charge customers for the provision of the following alternative control services: ancillary network services and public lighting. We also make a draft decision on metering, which we classify as an alternative control service, in Attachment 20.

Alternative control services are customer specific or customer requested services and so the full cost of the service is attributed to a particular customer, or group of customers, benefiting from the service.

We set service specific prices to provide a reasonable opportunity to the distributor to recover the efficient cost of each service from customers using that service. This is in contrast to standard control services where costs are spread across the general network customer base.

16.1 Ancillary network services

Ancillary network services are non-routine services provided to individual customers as requested. Our F&A paper outlines several types of services that meet this broad definition.¹

Ancillary network services are charged to customers on a user-pays approach which are either charged on a fee or quotation basis, depending on the nature of the service.

We determine price caps for fee-based services for the 2024–29 period as part of our determination, based on the cost inputs and the average time taken to perform each service. These services tend to be homogenous in nature and scope and can be costed in advance of supply with reasonable certainty, such as disconnections and special meter reads.

By comparison, prices for quoted services are based on the quantities of labour and materials required, with the quantities dependent on a particular task. Prices for quoted services are determined at the time of a customer's enquiry and reflect the individual requirements of the customer's service request.

For this reason, it is not possible to list prices for quoted services in our decision. However, our draft decision sets the maximum labour rates to be applied to quoted services.

16.1.1 Draft decision

16.1.1.1 Form of control for ancillary network services

Our draft decision is to maintain our final F&A position to apply price caps to ancillary network services as the form of control.

Under a price cap form of control, we set a schedule of price caps for fee-based services and maximum labour rates for quoted services for the first year of the regulatory control period,

¹ See AER, *Final framework and approach for Ausgrid, Endeavour Energy and Essential Energy for the 2024-29 regulatory control period*, July 2022, p. 5–6. Our F&A paper outlines several types of services that can be considered as meeting this broad definition such as network ancillary services, basic connection services and non-routine metering services.

2024–25. For each year thereafter, we adjust the price caps and maximum labour rates for inflation, the X factor,² and any relevant adjustments. This mechanism is set out in greater detail in section 14.5.2 of Attachment 14 – Control mechanisms.

As ancillary network services have a high share of labour and labour-related inputs, we use labour price growth forecasts as the ancillary network services X factor. Consistent with our previous decisions, we derived the X factor by averaging wage price index growth forecasts from KPMG (provided by the AER) and BIS Oxford Economics (provided by the distributor).³ Our draft decision X factors for ancillary network services are set out in appendix A.

16.1.1.2 Fee-based and quoted services

Our draft decision does not accept Essential Energy’s proposal as submitted. Based on our analysis and updated inputs, our draft decision is to:

- Substitute Essential Energy’s proposed X factors with our draft decision labour price growth forecasts (see Table A.1 in appendix A).
- Accept the following proposed fee-based and quoted services labour rates as they are below the maximum labour rates which we consider are efficient:
 - R1 – Admin (after hours)
 - R2a – Technical Specialist – Indoor (after hours)
 - R2b – Technical Specialist – Outdoor (after hours)
 - R3a – Engineer (business and after hours)
 - R3b – Senior engineer (business and after hours)
 - R3c – Engineering Manager (after hours)
 - R4 – Field Worker (after hours)
- Not accept the following labour rates as they are above the maximum labour rates which we consider efficient. As a result, we have substituted them with our maximum labour rate benchmarks:
 - R1 – Admin (business hours)
 - R2a – Technical Specialist – Indoor (business hours)
 - R2b – Technical Specialist – Outdoor (business hours)
 - R3c – Engineering Manager (business hours)
 - R4 – Field Worker (business hours)
- Not accept the following proposed assumptions for fee-based services:
 - the application of an overhead rate of 65.57%, which is above our benchmark rate of 61%
 - the application of a margin allowance of 5.71%, outside of its overhead rate, as we consider it already accounted in the overhead rate

² Under the CPI–X framework, the X factor can be a measure of the real rate of change in prices from one year to the next. For ancillary network services, the X factor is the change in wage prices given that labour is the primary cost input for providing these services.

³ For more detail on the reasons for this decision, see the discussion in section 6.4.2 of Attachment 6 – Operating expenditure.

- the application of a tax allowance of 4.96% because Essential Energy has not sufficiently justified how the cost arises
 - the assumed times required to perform special meter test services, as we do not yet have the evidence to support an increase in assumed times
 - the assumptions for access permit services, which Essential Energy intends to restructure in its revised proposal.
- Substitute Essential Energy’s proposed year one (2024–25) prices for fee-based services with our draft decision price caps for 2024–25, based on applying our draft decision on inflation, labour rates and revised assumptions (see section 16.1.4.2 and Table A.2 in appendix A⁴)

16.1.2 Essential Energy’s proposal

Essential Energy proposed 157 discrete ancillary network services, of which 108 were fee-based.⁵ Essential Energy refined some of its offering by amending service descriptions to combine previous services. It also proposed new public lighting minor capital works fee-based services.

Essential Energy proposed 6 labour categories to reflect the different types of labour it uses in providing ancillary network services (see Table 16.1). Compared to the 2019–24 period, Essential Energy proposed 2 new categories of labour for engineers and engineering managers.⁶ This approach is consistent with previous proposals that we have accepted and our benchmarking approach.

Essential Energy derived its proposed labour rates for the 2024–29 period using historical information and its 2021 enterprise agreement.⁷

Essential Energy applied a bottom-up approach to develop prices for most of its fee-based services using the AER’s standardised ancillary network services model.⁸ As part of its proposal, Essential Energy proposed an updated overhead rate of 65.57% and the addition of margin and tax allowances across its suite of fee-based services.

Table 16.1 and Table 16.2 in section 16.1.4.1 contain Essential Energy’s proposed labour rates for business hours and after hours, respectively.⁹

⁴ For ancillary network services prices that Essential Energy considers confidential, we make them available in Table 16.15 in appendix C.

⁵ Essential Energy, *13.01.02 Ancillary Network Services Standardised model*, January 2023.

⁶ Essential Energy, *13.01 Ancillary Network Services Explanatory Document*, January 2023, p. 5.

⁷ Essential Energy, *13.01 Ancillary Network Services Explanatory Document*, January 2023, p. 5.

⁸ Essential Energy, *13.01 Ancillary Network Services Explanatory Document*, January 2023, p. 4.

⁹ The labour rates in table 16.1 are specifically for quoted services, though they are consistent with the labour rates for fee-based services. The difference is that “base” labour rates and on-costs are the explicit labour input for fee-based services, with overheads being calculated at a later stage based on total direct costs (labour, materials and so on).

16.1.3 Assessment approach

The regulatory framework for assessing alternative control services is less prescriptive than for standard control services. That is, there is no requirement to apply the building block model exactly as prescribed in Part C of the National Electricity Rules (NER).

On this basis, our approach involves an assessment of the efficient costs of providing ancillary network services. Labour costs are the major input in the cost build-up of prices for ancillary network services. Therefore, our assessment focusses on comparing Essential Energy's proposed labour rates against maximum total labour rates, which we consider efficient.

Where Essential Energy's proposed labour rates exceed our maximum efficient labour rates, we apply our maximum efficient labour rates to determine prices. We follow this assessment process for services provided on a fee or quotation basis.

We also considered relevant stakeholder feedback raised throughout the consultation process and benchmarked Essential Energy's proposed ancillary network services prices against its prices for the 2019–24 period and other relevant distributors. We will also make further adjustments to Essential Energy's ancillary network services prices where we consider it appropriate to do so.

16.1.4 Reasons for draft decision

Section 16.1.4.1 discusses the maximum labour rates we consider are appropriate for Essential Energy.

Section 16.1.4.2 sets out how we assessed Essential Energy's proposed fee-based prices and, where appropriate, adjusted them to derive our draft decision prices for 2024-25. This includes substituting our draft decision labour rates (among other draft decision factors), where necessary, following our considerations as set out in section 16.1.4.1.

Section 16.1.4.3 discusses a submission we received during the submission period on Essential Energy's public lighting minor capital works services.

16.1.4.1 Proposed labour rates

For ancillary network services we typically review the key inputs in determining the price for the service. We focus on labour rates as these are the principal input.

Consistent with the 2019–24 period, we continue to categorise Essential Energy's proposed labour rates into six different categories. This is on the basis that although distributors use different labour categories and descriptions, the types of labour used to deliver ancillary network services broadly fall into the following categories: administration, technical specialists, field workers, engineers, and senior engineers. For the NSW networks, we also benchmark a sixth category: engineering manager. This is consistent with our previous distribution determinations for the NSW distributors.

This method is a continuation of Marsden Jacob’s previous reports for the AER in relation to labour rates and ancillary network services.¹⁰ In assessing the reasonableness of the proposed labour rates, we:

- derived salary ranges for our labour categories using NSW salary data for various electricity distribution-related occupations from the most recent, publicly available Hays Salary Guide (Hays)
- derived the raw hourly rate using the maximum salaries in each of the categories, dividing by number of weeks in a year and hours in a week
- escalated for on-costs (leave, superannuation, workers compensation, payroll tax)
- escalated for overheads – we continue to use a maximum overhead rate of 61%, based on Marsden Jacob’s analysis. We note the profit margin allocation is already included within the overall overhead allowance. This is not consistent with Essential Energy’s proposal where it included a separate margin allowance (see section 16.1.2).
- escalated for assumed inflation, labour rate escalators (reflecting the wage price index) and an allowance to account for salary stickiness in the Hays data
- added an hourly vehicle cost, where required.

In aggregate, these elements are referred to as the ‘maximum reasonable benchmark rate’, which is expressed as an hourly rate.

Compared to our 2019–24 period decision, we have made the following changes to the way we derive our maximum reasonable benchmark rate:

- using a 38-hour week, rather than a 40-hour week, consistent with the latest Hays report.
- excluding salary data from the ‘Transmission line engineer’ and ‘Generator technician’ occupations from our analysis
- uplift the engineer rate by 20% to obtain the senior engineer rate
- using Hays 2022–23 data (instead of the most recent 2023–24 data) for technical specialists, field workers and engineering managers
- use of real inflation (CPI) and X factors to convert labour rates and the vehicle allowance to \$2024–25.

Excluding occupations and the uplift for engineers

In considering labour rate benchmarks in the lead-up to our issues paper, we benchmarked the distributors’ proposed labour rates with the most recent (at the time) labour rates derived from the Hays 2022–23 data. We found that, under our methodology, engineers and senior engineers would have the same hourly rate.

¹⁰ Recent reports include: Marsden Jacob, *Review of Alternative control services for SA Power Networks Energex and Ergon Energy*, June 2019; Marsden Jacob Associates, *Review of Victorian distributors Alternative Control Services*, June 2020.

We applied several changes in deriving the raw labour rates. Upon consultation with our internal technical experts, we removed the roles of ‘Transmission line engineer’ (categorised as engineer) and ‘Generator technician’ (technical specialist) from their respective benchmarks as they are not typically employed by distributors.

Further, we consider it is not appropriate to assign occupations to the senior engineer category because senior engineer salaries reflect time in role, not particular occupations. Instead, we applied a 20% uplift from engineer salaries as a reasonable premium for time in role.

Changes to Hays Salary Guide

In July 2023, Hays released its 2023–24 salary data. There were some significant changes in its reporting with the report no longer including wage data for the technical specialist and field worker roles. It also did not update salaries for engineering managers. To derive our benchmarks for these labour categories, we instead use the latest data that we have, which is the Hays 2022–23 data.

For the administration and engineer labour categories, we used the Hays 2023–24 data as the relevant rates are still available.

In addition, we note that the Hays 2023–24 data is based on a 38-hour week.¹¹ We have therefore derived our maximum reasonable benchmark rates using a 38-hour week as we consider the Hays data captures the conditions of the broad labour pool from which Essential Energy draws its labour.

Determining labour rates in \$2024–25

Finally, we applied one or two-year’s worth of real inflation and X factors to convert the 2022–23 and 2023–24 labour rates (respectively, depending on which was applicable) to \$2024-25. To convert \$2022–23 nominal rates into \$2023–24 nominal terms (where relevant), we used actual CPI consistent with the method we apply during annual pricing and consistent with our draft decision on control mechanisms.¹² To convert \$2023–24 nominal rates into \$2024–25 nominal terms, we have applied forecast CPI from the Reserve Bank of Australia as a placeholder for this draft decision. We will apply actual CPI consistent with our control mechanism in our final decision.

We also used this approach to escalate the \$20 per hour vehicle allowance in our previous decisions for inflation only (i.e. no X factor) to \$23.87.¹³

To obtain the benchmark after hour rates, we continue to apply 1.75 times the business hourly rate, as recommended by Marsden Jacob.

¹¹ *Hays Salary Guide FY23/24 Australia and New Zealand*, p. 2

¹² AER, *Draft decision - Ausgrid distribution determination 2024–29 - Attachment 14 - Control mechanisms*, September 2023.

¹³ See for example AER, *Draft decision - Powercor distribution determination 2021-26 - Attachment 16 - Alternative control services*, September 2020, p.6; Marsden Jacob Associates, *Review of Victorian distributors - Alternative Control Services*, June 2020, p. 24.

Using this method, Table 16.1 includes our maximum hourly labour rate for the six labour benchmark categories and Essential Energy’s proposed prices for business hours. Table 16.2 contains the same information for after hours.

Table 16.1 AER maximum benchmark and Essential Energy’s proposed hourly labour rates for 2024–25 (business hours, including on-costs and overheads, \$2024–25)

Labour category	AER maximum labour rate	Essential Energy proposed labour rate
Administration	\$119.58	\$154.10
Field worker (including vehicle allowance)	\$196.56	\$230.88
Technical specialist – indoor	\$191.40	\$226.20
Technical specialist – outdoor (including vehicle allowance)	\$215.26	\$279.84
Engineer	\$265.73	\$247.84
Senior engineer	\$318.87	\$301.09
Engineering manager	\$345.38	\$371.66

Source: AER analysis.

Table 16.2 AER maximum benchmark and Essential Energy’s proposed hourly labour rates for 2024–25 (after hours, including on-costs and overheads, \$2024–25)

Labour category	AER maximum labour rate	Essential Energy proposed labour rate
Administration	\$209.27	\$187.20
Field worker (including vehicle allowance)	\$343.98	\$268.95
Technical specialist – indoor	\$334.95	\$274.78
Technical specialist – outdoor (including vehicle allowance)	\$376.71	\$328.43
Engineer	\$465.03	\$301.08
Senior engineer	\$558.02	\$365.77
Engineering manager	\$604.42	\$451.49

Source: AER analysis.

Outcomes of our benchmarking

As a result of our benchmarking, we do not accept the following labour rates proposed by Essential Energy and have substituted in our maximum labour rates (for only business hours):

- R1 – Admin

- R2a – Technical Specialist – Indoor
- R2b – Technical Specialist – Outdoor
- R3c – Engineering Manager
- R4 – Field Worker.

Table A.3 in appendix A sets out our draft decision on the labour rates Essential Energy can utilise in the provision of quoted services.

Section 16.1.4.2 discusses the effect of our draft decision on labour rates on Essential Energy's prices for fee-based services.

16.1.4.2 Proposed fee-based services and benchmarking

Our draft decision is to not accept Essential Energy's proposed prices for fee-based services. We adjusted the following inputs in the calculation of Essential Energy's prices for fee-based services:

- Labour inputs (see section 16.1.4.1)
- Reduction of the overhead rate and removal of the margin allowance
- Removal of the tax allowance
- Assumptions for the time taken to provide special meter test services

appendix A sets out our draft decision prices for Essential Energy's fee-based services incorporating these adjustments.

As we detailed in section 16.1.4.1, we have adjusted Essential Energy's proposed labour rates to reflect the outcome of our assessment of efficient labour rates. These adjustments have reduced Essential Energy's proposed prices by an average of 19.53% across all fee-based services.¹⁴

In addition to our labour rates analysis, we benchmarked Essential Energy's fee-based services by comparing its prices and assumptions for its most commonly requested services with other distributor's proposals, as well as comparing the proposed prices against those we approved for the 2019–24 period.

We observed large increases in price when we compared Essential Energy's proposed 2024–25 fee-based service prices with their 2023–24 equivalents (which are based on the prices we set in our previous decision). Essential Energy's response to our information request noted the drivers for the price increases were mainly attributed to increases in the base labour rate, its overhead allocations, a tax allowance, and inflation.¹⁵

We also benchmarked Essential Energy's most commonly requested fee-based services against similar services provided by other electricity distributors. After adjusting for labour rates and our adjustments to overheads, margin, and tax allowances, we found that its

¹⁴ This average is unweighted and does not consider the quantity of services performed.

¹⁵ Essential Energy, *Information request ESS IR#028 – ANS Follow-up questions – 20230509*, Received 17 May 2023.

special meter test and access permits did not benchmark well against other distributors' proposed prices. After further analysis of those benchmarked services, we revised the assumptions behind special meter tests and not access permits.

Essential Energy's margin allowance and overheads

We do not accept Essential Energy's proposed overhead rate of 65.57% because it is above our benchmark overhead rate of 61%. We also do not accept Essential Energy's proposed margin of 5.71% because we consider a margin is already accounted in the total overhead allowance.

Essential Energy submitted that its proposed overhead rate was based on the AER approved cost allocation methodology (CAM) used to allocate support costs.¹⁶ Meanwhile its margin allowance was derived from its nominal vanilla WACC.¹⁷

For fee-based services, our benchmark approach allows for a maximum overhead rate of 61% which is inclusive of a profit margin. This benchmark was based on Marsden Jacob's review of efficient costs for ancillary network services in our previous decisions for the NSW, Tasmanian, Northern Territory and ACT distribution determinations.¹⁸

Marsden Jacob considered that where a proposal includes an explicit profit margin, then the total of the profit margin and overhead allowance should be benchmarked against the maximum overhead rate 61%.¹⁹ We note the sum of Essential Energy's proposed margin and overhead allowance is 71.28%, which is above the 61% benchmark.

As stated earlier, in an information request response, Essential Energy relied on its CAM to propose an overhead rate higher than our benchmark. A CAM outlines the principles and policies to allocate costs between different categories of distribution services.²⁰ However, Essential Energy did not explain how it calculated its proposed overheads or explain why the proposed overhead rate should be considered efficient.

Our main consideration in this decision is the efficiency of Essential Energy's costs. We consider the 61% overhead rate as our benchmark for efficiency. This benchmark has been used in previous decisions and we consider that it is still appropriate and fit for purpose in this decision. We discussed the merits of using this overhead rate in our previous 2019–24 draft decision.²¹

As such, our draft decision is to not accept Essential Energy's proposed margin but apply the maximum overhead rate of 61%. We consider this maximum overhead rate will enable Essential Energy to recover at least its efficient costs in providing fee-based services.

¹⁶ Essential Energy, *Information request ESS IR#028 – ANS Follow-up questions – 20230509*, Received 17 May 2023.

¹⁷ Essential Energy, *13.01.02 Ancillary Network Services Standardised model*, January 2023, Input\Indirect Cost Rates

¹⁸ See, for example, Marsden Jacob, *Review of Alternative Control Services*, September 2018, p. 7.

¹⁹ See, for example, Marsden Jacob, *Review of Alternative Control Services*, September 2018, p. 8.

²⁰ NER, cl. 6.15.2(1).

²¹ AER - Essential Energy 2019-24 - Draft decision - Attachment 15 - Alternative control services - November 2018, pg. 15.

Essential Energy’s tax allowance

We do not accept Essential Energy’s proposal to apply a tax allowance of 4.96% across all of its fee-based services. We do not consider that it has appropriately applied them to services that Essential Energy capitalises for accounting purposes.

Essential Energy proposed a tax allowance to recover the tax payable based on revenue less expenses.²² It derived the tax component percentage by dividing the calculated net tax allowance by the total opex and capex using the post-tax revenue model.²³ This was then applied as an uplift to all of its fee-based services.

We asked Essential Energy why it included the allowance in all of its fee-based services. Essential Energy’s response was that because we included a tax component in the quoted service control mechanism in our final F&A, it also meant that a tax allowance should apply to fee-based services because labour is a building block.²⁴

However, our original intent of including a tax allowance to the quoted service control mechanism was to allow distributors to recover tax costs associated with capital-intensive quoted services when they were capitalised for accounting purposes.²⁵ We intended this to apply to a subset of quoted services, not all of them. Because Essential Energy proposed to apply a tax allowance across all of its fee-based services, including those that did not have any capital elements, our draft decision it to remove the tax allowance from its proposal. It is unclear from Essential Energy’s proposal whether these services are capitalised for tax purposes and if they are, how and the extent they are capitalised for tax purposes.

Essential Energy’s assumptions for special meter tests

We do not accept Essential Energy’s assumptions for its special meter test services.²⁶ Instead, we substitute what we consider are reasonable hours required to provide these services.

For the first special meter test service, Essential Energy proposed a 2024–25 price of \$1861, compared to the current 2023–24 price of \$721.33. It stated that the main drivers of the price increase were labour rates and an increase in the hours associated in providing the special meter test. Below is a table that illustrates the changes in hours from the 2019–24 period and its proposal for the 2024–29 period.

²² Essential Energy, *13.01 Ancillary Network Services Explanatory Document*, January 2023, page 4.

²³ Essential Energy, *Information request ESS IR#028 – ANS Follow-up questions – 20230509*, Received 17 May 2023.

²⁴ Essential Energy, *Information request ESS IR#028 – ANS Follow-up questions – 20230509*, Received 17 May 2023.

²⁵ AER, *Final framework and approach for Ausgrid, Endeavour Energy and Essential Energy for the 2024-29 regulatory control period*, July 2022, p. 42.

²⁶ ‘26.3 Special meter test - 1st’ fee-based service, ‘26.4 Special meter tests – additional’ and ‘26.5 Special meter tests - CT meter’ services.

Table 16.3 Comparison of assumptions for the first special meter test fee-based service

Labour category	AER 2019–24 final decision	2024–29 initial proposal	AER 2024–29 draft decision
Administration		1.17 hours	0.25 hours
Technical specialist – outdoor	3.4 hours (includes 1 hour travel time)	4.33 hours (includes 2 hours travel time)	3.4 hours (includes 1 hour travel time)
Engineer		1.17 hours	

Source: AER analysis; Essential Energy, *Att. 9.3.a – Standardised ancillary network services model*, 31 Jan 2023; AER, *Final decision - Essential Energy 2019-24 - Revised Proposal - 13.3 ANS Model – 20190108*, April 2019.

We queried further the drivers of the increase in hours required for the first special meter test service. Essential Energy noted that:

- the previous 1 hour travel time did not adequately recover travel times across its network
- administration time is required to prepare the work order in the metering data base, organising the outage request and customer notification, managing work order completion and correspondence with the retailer
- its revised proposal will replace the engineer with an indoor technical officer (it also indicated it would make this change for its additional meter test and CT meter test services). The indoor technical officer would review and certify test results. This was justified on the basis to recover time associated with its quality management system implemented for Power of Choice.²⁷

We do not accept Essential Energy’s proposal for the following reasons:

- Essential Energy noted that travel time associated with meter testing was monitored and that a 1 hour travel time did not adequately recover the cost, but we were not provided with sufficient information to conclude that 2 hours of travel time was more appropriate. Essential Energy only provided one example of a 13 hour round trip between Broken Hill and Bourke to conduct a metering test. However, there was no context regarding this anecdotal evidence. More importantly, Essential Energy did not provide robust data to justify a doubling in travel time for this service.
- At most, other distributors have allocated 15 minutes of administration time to perform the special meter test service. It is unclear how managing the work order for each job would take 1.17 hours.
- Essential Energy relied on AEMO’s service level procedure for metering provider services to explain the 1.17 hours for the engineer.²⁸ However the procedure does not

²⁷ Essential Energy, *Information request ESS IR#045 – ANS follow-up questions to IR#028 – 20230801*, Received 25 August 2023.

²⁸ AEMO, *Service level procedure – metering provider services*, https://aemo.com.au/-/media/files/stakeholder_consultation/consultations/nem-consultations/2023/saps-retail-procedures-error-corrections-clarifications/procedures-may-26/service-level-procedure-mp-services-v16-clean.pdf?la=en. Essential referred to cl. 3.3 and 6.5.

say anything about calibrating test equipment after every test. Furthermore, the other distributors have not proposed a significant step change in time taken to recover time associated with Power of Choice. Essential Energy also did not justify the efficiency of having an engineer spend 1.17 hours after each test to review and certify results.

Therefore, our draft decision for the first special meter test service is to:

- substitute administration time to 0.25 hours (15 minutes)
- substitute outdoor technical specialist time to 3.4 hours (consistent with our previous decision)
- remove the assumption for engineer time.

Our draft decision for the two related services (the additional meter test and the CT meter test) is mostly the same for the reasons outlined above. We reduced administration time to 15 minutes and removed the engineer time. We maintained the outdoor technical specialist time for these services as the proposed assumptions were lower than our 2019–24 final decision assumptions.

Essential Energy’s assumptions for access permits

We do not accept Essential Energy’s assumptions for access permits in the expectation that it will propose a new fee structure for access permits that is more cost reflective. As Essential Energy informed us it will restructure the pricing for this service in its revised proposal, our draft decision is to substitute placeholder prices which reflect our draft decision labour rates, overheads and tax and margin allowances.²⁹

Essential Energy proposed a price of \$4,397.64 for its access permits service, compared to its previous price of \$3,023.99 in 2023–24. Essential Energy subsequently advised us that it will restructure its access permit fees as part of its upcoming revised proposal.

In May 2023, Essential Energy presented a revised fee structure for access permits in its accredited service provider (ASP) forum. This fee structure will offer different access permit services based on the complexity of the connection. It will no longer offer a single access permit service which will improve cost reflectivity. It did not receive comments from ASPs or other stakeholders on these changes.³⁰ Essential Energy’s modelling of prices suggested that smaller customers would pay a lower price for access permits in the new fee structure compared to the current price. We will apply our usual benchmark process to review Essential Energy’s assumptions for the new fee structure in the revised proposal.

16.1.4.3 Minor capital works

We do not accept Essential Energy’s proposed prices for its public lighting minor capital works fee-based services.³¹ We instead substitute placeholder prices which reflect our draft

²⁹ Essential Energy, *Information request ESS IR#045 – ANS follow-up questions to IR#028 – 20230801*, Received 25 August 2023.

³⁰ Essential Energy, *Information request ESS IR#045 – ANS follow-up questions to IR#028 – 20230801*, Received 25 August 2023.

³¹ We refer to the 9 public lighting services listed under service code 31.1 in Essential Energy’s ANS model.

decision labour rates, overheads and tax and margin allowances. The effect of these changes is to reduce the proposed service prices by 14.76% to 20.98%.

The Southern Lights NSW Group was the only submission we received on Essential Energy's proposal for ancillary network services. Its submission mainly focused on public lighting minor capital works, which Essential Energy introduced as a fee-based service in its proposal.³² The submission raised concerns about the proposed framework and quantum of the new fee-based services and requested more discussions with Essential Energy.³³

Charging for minor capital works is relatively new and we have had concerns raised by stakeholders on these charges by other distributors.³⁴ Given these sensitivities, we would like to see Essential Energy engage further with stakeholders on how to charge for these services for its revised proposal. This includes whether the service should be fee-based or quoted and the assumptions underlying the fee-based service if it is to be charged as fee-based.

We are cognisant of councils wanting assurance on the prices they will pay for services which often lends itself to fee-based services. However, our understanding is that Ausgrid and its councils have agreed to the framework in which public lighting minor capital works are classified and provided as quoted services because the nature of these services could vary widely depending on the nature of the customer's request. We seek Essential Energy to engage further with its stakeholders on this issue.

As such, our draft decision maintains these minor capital works services as fee-based and substitutes placeholder prices. We will consider both stakeholder feedback and any other supporting information Essential Energy provides us in its revised proposal when we make our final decision.

16.2 Public lighting services

Public lighting services include the provision, construction and maintenance of public lighting assets.³⁵ This definition includes new technologies such as energy-efficient light emitting diode (LED) luminaires and emerging public lighting technologies such as smart-enabled luminaires.³⁶

The main customers of public lighting services are local government councils and jurisdictional main roads departments.

There are a number of different tariff classes and prices for public lighting services. Factors influencing prices for a particular installation include which party is responsible for capital provision, and which party is responsible for maintaining and/or replacing installations.

³² Essential Energy, *Att. 13.3 – Public Lighting Explanatory Document*, January 2023, p. 15.

³³ Central NSW Joint Organisations, *Southern Lights - 2024-29 Electricity Determination*, May 2023, pp. 8–9.

³⁴ Central NSW Joint Organisations, *Southern Lights - 2024-29 Electricity Determination*, May 2023, pp. 8–9.

³⁵ AER, *Final framework and approach for Ausgrid, Endeavour Energy and Essential Energy for the 2024-29 regulatory control period*, July 2022, p. 34.

³⁶ AER, *Final framework and approach for Ausgrid, Endeavour Energy and Essential Energy for the 2024-29 regulatory control period*, July 2022, pp. 34–35.

In NSW, the date of installation also influences public lighting prices. Public lighting prices comprise of capital and operating expenditure (opex) prices for assets installed either pre or post 2009.

16.2.1 Draft decision

Our draft decision is to not accept Essential Energy's public lighting proposal. Our assessment shows that Essential Energy's public lighting prices are above those of the other NSW distribution networks – Ausgrid and Endeavour Energy. As detailed in section 16.2.4.1, we have made a top-down adjustment to the proposed prices based on our benchmarking.

We have made this top-down adjustment pending Essential Energy's continuing engagement with stakeholders as it refines its public lighting proposal in the lead up to submitting its revised proposal.³⁷ We note in response to stakeholder feedback, Essential Energy has started an engagement process with stakeholders to inform its revised proposal. We encourage Essential Energy to openly engage with stakeholders with the view to submitting a revised public lighting proposal that is capable of acceptance.

We will review our draft decision in light of Essential Energy's revised proposal and submissions from stakeholders in making our final decision.

Our draft decision public lighting prices for 2024–25 are set out in appendix B. These prices are on average 21.8% lower than Essential Energy's proposed prices. For subsequent years, the X factor is set at zero and the prices increase by CPI following the control mechanism formula.

16.2.2 Essential Energy's proposal

Essential Energy is largely proposing price reductions on average around 1.0% to its existing LED lights. The exception to this is its medium to high wattage Category V³⁸ LEDs where it proposes an average increase in opex prices of 6.8% driven by increased night patrol costs. They are also adding lights to their existing suite of LEDs on offer.³⁹

Essential Energy submitted that it will continue to explore new public lighting solutions with councils to facilitate the transition to new technologies. The rapid take-up of LEDs for public lighting is forecast to continue into the 2024–29 period. Essential Energy stated it will facilitate the adoption of technologies such as smart street lighting by conducting pilots with interested councils. Essential Energy is already working with Bathurst Regional Council in this space.⁴⁰

Essential Energy committed to transition 90% of traditional lighting technologies to LEDs in the 2019–24 period. Essential Energy stated the rollout is on track to exceed this target – to date, over 80% of streetlights have been upgraded to LED, with plans to transition a further 15% in the next 12 months. Essential Energy stated bulk upgrade programs have been very

³⁷ Essential Energy, *Information Request IR040 – Public Lighting Submissions*, 5 July 2023, p.1.

³⁸ Category V is the Vehicle Category of LEDs comprising of LED's of around 70W and above on main roads and highways. Category P LED's are the Pedestrian category and comprise of lower Wattage LED's on minor roads.

³⁹ AER Analysis.

⁴⁰ Essential Energy, *Regulatory proposal*, January 2023, p. 96.

well received by councils and that the rollout has been seen as a resounding success, improving maintenance outcomes and reducing energy costs.⁴¹ LED lights are expected to comprise 100% of the lighting population by 2027–28.⁴²

During the 2019–24 period, Essential Energy introduced a component-based charging model and are continuing this into the 2024–29 period. Charges are separated into maintenance and capital recovery charges for each lighting component, including light, bracket and pole. The public lighting prices recover the three main costs in providing these services – capital and operating costs and safety initiatives.⁴³

Where a new service is identified during a regulatory period that does not have a price set by the AER, Essential Energy has undertaken to develop pricing in a manner that is consistent with other services in the same classification group.⁴⁴

Greater transparency for minor capital works was identified as a key principle by councils and to address this, Essential Energy will introduce fee-based pricing for the 2024–29 period.⁴⁵

16.2.3 Assessment approach

To determine prices for public lighting services we assessed Essential Energy’s public lighting model, considered historical data and benchmarked proposed costs against other NEM distributors and against independent data and information as relevant. Specifically, we assessed proposed labour price growth rates, other input assumptions and stakeholder submissions to derive proposed public lighting charges.

We consulted with Essential Energy and council representatives through information requests and meetings to clarify and potentially resolve outstanding issues.

We also engaged Marsden Jacob to quality-assure public lighting models to ensure they are internally consistent, accurate and fit-for-purpose.

We updated model parameters where appropriate after taking the factors described above into consideration.

For Essential Energy we benchmarked their proposed LED capex and opex prices against the LED prices of the other NSW Distributors. This is addressed in section 16.2.4.1.

16.2.4 Reasons for draft decision

We do not accept Essential Energy’s public lighting prices based on our analysis of Essential Energy’s proposal and model as well as concerns raised by stakeholders.

Our benchmarking of Essential Energy’s most common requested LED lights shows that its cost inputs are materially above the other NSW distributors. As such, our draft decision has

⁴¹ Essential Energy, *Att. 13.3 – Public Lighting Explanatory Document*, January 2023, p. 3.

⁴² Essential Energy, *Public Lighting Model*, January 2023.

⁴³ Essential Energy, *Regulatory proposal*, January 2023, p. 96.

⁴⁴ Essential Energy, *Att. 13.3 – Public Lighting Explanatory Document*, January 2023, p. 16.

⁴⁵ Essential Energy, *Regulatory proposal*, January 2023, p. 96.

made an adjustment to Essential Energy’s proposed public lighting prices (see section 16.2.4.1).

In addition, Southern Lights NSW⁴⁶ (Southern Lights) submitted that it does not support Essential Energy’s proposed public lighting prices and stated it has a low level of confidence in the underlying assumptions and inputs in the pricing model. Further, Southern Lights do not consider Essential Energy engaged in a true co-design process in forming its public light proposal.⁴⁷ Southern Lights also noted that Essential Energy’s proposed prices benchmark poorly against Ausgrid’s.⁴⁸

Essential Energy notified us its public lighting engagement is continuing as it refines positions in the lead up to submitting its revised proposal. Essential Energy stated it is meeting with Southern Lights to further progress development of the public lighting proposal and to address any open issues.⁴⁹ We also understand Essential Energy met with councils and key stakeholders in late August to further engage on its public lighting proposal.

We are encouraged by Essential Energy’s ongoing engagement with its key stakeholders. We are hopeful that this continued engagement will improve the relationships between Essential Energy and consumers, generate new ideas and ultimately deliver a revised proposal that reflects consumer preferences as well as meets our expectations. Such an outcome would be in line with our expectations set out in the Better Resets Handbook.⁵⁰

Given this ongoing engagement and without wanting to preclude the outcome, we have largely made top-down adjustments to Essential Energy’s public lighting prices for our draft decision. We set out our top-down adjustments in section 16.2.4.1 and our detailed consideration of Southern Lights’ submission in section 16.2.4.2.

Although we have made a top-down adjustment, this draft decision also includes our consideration of individual aspects of Essential Energy’s proposal:

- other adjustments from our draft decision (section 16.2.4.3)
- introducing new services in the 2024–29 period (section 16.2.4.4)
- LED cleaning (section 16.2.4.5).

16.2.4.1 Benchmarking

Our draft decision uses a top-down approach via benchmarking to set prices for Essential Energy rather than modifying the inputs in the public lighting model to build up prices. This is

⁴⁶ Southern Lights is an organisation representing 31 local councils in NSW. There were also submissions from Bathurst Regional Council, Blayney Shire Council, Riverina and Murray Regional Organisation of Councils, Parkes Shire Council and Weddin Shire Council in support of the Southern Lights submission. Local councils and road authorities are the main customers of public lighting services.

⁴⁷ Central NSW Joint Organisations - Southern Lights, *2024-29 Electricity Determination*, May 2023, p. 2.

⁴⁸ Central NSW Joint Organisations - Southern Lights, *2024-29 Electricity Determination*, May 2023, pp. 3–4.

⁴⁹ Essential, *Information Request IR040 - Public Lighting Submissions*, 5 July 2023.

⁵⁰ AER, *Better resets handbook: Towards consumer centric network proposals*, December 2021.

because Essential Energy and stakeholders are still consulting and considering the inputs within the model and many of the issues raised by stakeholders remain open.

The Southern Lights submission included benchmark analysis (Table 0.4) and submitted that Essential Energy does not benchmark well on the directly comparable common light types.

Table 16.4 LED prices in NSW for 2024–25

Distributor	17W Residential Road LED (Category P)		76-80W Main Road LED (Category V Low)		140-150W Main Road LED (Category V Med)	
	Essential Energy	Ausgrid	Essential Energy	Ausgrid	Essential Energy	Ausgrid
OPEX	\$39.12	\$23.25	\$61.14	\$31.69	\$61.14	\$31.69
CAPEX	\$65.39	\$51.10	\$156.37	\$60.19	\$159.52	\$65.45
TOTAL	\$104.51	\$79.20	\$217.51	\$91.88	\$220.66	\$97.14

Source: Southern Lights, *Public Lighting Submission*, May 2023, p. 3.

We agree with Southern Lights’ submission that Essential Energy’s proposed prices do not benchmark well on the directly comparable common light types. The AER’s analysis of all the NSW distributors public lighting models indicate that Essential Energy’s proposed prices are higher than the prices proposed by the other NSW distributors across all of its proposed LED prices.

Additional to the Southern Lights submission, table 0.5 presents our comparison of Essential Energy and Endeavour Energy’s LED opex prices. Essential Energy’s proposed Main Road LED opex tariff is significantly above Endeavour Energy. Its residential Road LED opex tariff, whilst still above, is closer to Endeavour Energy’s price.

Table 16.5 LED opex prices in NSW for 2024–25

	Residential Road LED opex (\$/year)	Main Road LED opex (\$/year)
Endeavour Energy (revised)*	\$34.01	\$38.45
Essential Energy	\$39.12	\$61.14

Source: AER Analysis.

Notes: * These are Endeavour Energy’s modified opex prices submitted in response to feedback from stakeholders. See section 16.3.4.2 of AER, *Draft Decision Attachment 16 - Alternative control services - Endeavour Energy - 2024-29 Distribution revenue proposal*, September 2023.

From an overall perspective, prices of LED lights with wattages of 34W and above are significantly above those of other distributors. For LED prices of 34W and below, whilst Essential Energy’s prices are still higher than those of the other NSW distributors, the differences are not as significant.

Essential Energy’s proposed prices appear to reflect a continuation, more or less, of their prices in the 2019–24 period, particularly for LEDs. The proposed prices do not appear to reflect the opex savings other distributors are passing through as a result of the LED rollout.

They also do not reflect the reduction in the costs of purchasing high wattage LEDs that other distributors are passing through in terms of lower capex charges.

Our draft decision uses a top-down approach via benchmarking to the other NSW distributors. Our top-down approach sets different benchmarks for opex and capex and for wattages above and below 35 Watts.⁵¹ This reflects the variation in prices proposed by Essential Energy and in how they benchmark compared to the other NSW distributors.

For example, for the common 17W LED, our draft decision is to reduce proposed capex and opex prices by 10% to bring them into an acceptable range with the other distributors. We also apply the 10% reduction to all LEDs 35W and under. The 10% reduction is derived to bring opex and capex prices back down into line with Endeavour Energy and Ausgrid.

For the common 80W and 150W LED, our draft decision is a 30% reduction in opex and 50% reduction in capex. We also apply these reductions to all LED's 36W and above. The 30% and 50% reduction is derived to bring opex and capex prices into line with Endeavour Energy and Ausgrid. Our draft decision reduces Essential Energy's proposed prices by the percentages set out in Table 0.6.

Table 16.6 Reduction applied to Essential Energy proposed prices

	35 Watt LED and below	36 WATT LED and above
Opex	10%	30%
Capex	10%	50%

Source: AER Analysis.

Our draft decision benchmarks set prices for Essential Energy that we consider are within a range of the other NSW distributors' price offerings. In setting these benchmarks, we take into account that Essential Energy is a more regional and remote distributor than Ausgrid and Endeavour Energy and that there are likely some additional costs as a result.

We have not adjusted non-LED lights as part of our benchmarking exercise as we understand the quantities of these lights are very small and diminishing. LED lights are expected to comprise 95% of lights by 2024–25 and to reach 100% by 2027–28. While we have not adjusted them, we expect Essential Energy to consider the prices of these lights as part of its engagement to develop its revised proposal, if stakeholders raise them.

A summary of the draft decision prices we substitute for Essential Energy are set out in Table 0.7. Our draft decision prices for all light types are set out in appendix B.

⁵¹ A small number of exceptions are made to this rule to maintain consistency in the relativity of prices across similar lights types. Opex for the 42W LED Pecan Luminaire is reduced by 10%. Capex is reduced by 50% for the 36W LED Pecan Luminaire – Aeroscreen, Bourke Hill 17W LED Aeroscreen luminaire Top Entry, Bourke Hill 34W LED Aeroscreen luminaire, Bourke Hill 17W LED Aeroscreen luminaire Side Entry and Bourke Hill 34W LED Aeroscreen luminaire Side Entry.

Table 16.7 Essential Energy Draft Decision LED prices for 2024–25

	Residential Road 17W LED (Category P Low, \$/year)	Main Road 80W LED (Category V Low, \$/year)	Main Road 150W LED (Category V Med, \$/year)
Proposed opex	\$39.12	\$61.14	\$61.14
Draft decision opex	\$34.28	\$41.67	\$41.67
Proposed total capex and opex	\$104.51	\$217.51	\$220.66
Draft decision total capex and opex	\$93.10	\$119.81	\$121.39

16.2.4.2 Detailed issues raised by Southern Lights

Southern Lights raised the following issues which appear to directly influence Essential Energy’s proposed public lighting prices:⁵²

- excessive overheads in comparison to Ausgrid
- larger management teams than other distributors
- night patrol costs benchmark poorly against Ausgrid
- failed tender process for acquiring smart controls leading to the failure to offer smart controls to councils.

Other issues Southern Lights raised as unresolved are:

- assumptions about LED and PE cell failure rates
- LED floodlighting design component assumptions
- costs of compliance testing of unmetered supply
- costs of the 6 yearly cleaning and inspection cycle
- labour productivity assumptions in the model.

Southern Lights also raised the following issues which do not appear to directly influence Essential Energy’s proposed public lighting prices (but may do so depending on each issue’s resolution):

- concerns about the Level of Service and Interpretation of the NSW Public Lighting Code
- persistent billing issues resulting in Councils being worse off
- Essential Energy’s proposed Minor Capital Works prices benchmarking poorly against Ausgrid.

⁵² Southern Lights, *Public Lighting Submission*, May 2023, pp. 5–8.

We engaged with Essential Energy in meetings and information requests around the issues raised by Southern Lights. However, Essential Energy did not consider that it was practical to resolve these issues prior to the draft decision.⁵³

Essential Energy stated its public lighting engagement is continuing as it refines positions in the lead up to submission of its revised proposal. In particular, we understand Essential Energy met with Southern Lights during July and August to further progress development of its public lighting proposal and to address any open issues.⁵⁴ We also note Essential Energy is engaging again with all councils in forming its revised proposal.

We encourage Essential Energy to engage on the issues raised by Southern Lights, and those raised in the upcoming stakeholder engagement, with the view that it will submit a revised a public lighting proposal that has stakeholder support.

Essential Energy should also seek to submit a revised proposal model with updated inputs. The model with updated inputs that is run to deliver the full comprehensive list of public lighting prices, should deliver prices that are in line with the suggested benchmarks that have been set below for the draft decision.

In its upcoming consultation, we encourage Essential Energy and stakeholders to be mindful of our draft decisions for several issues that Southern Lights raised.

In particular, we are satisfied with Essential Energy's proposal for a six-year cleaning cycle, which is addressed in section 16.2.4.5. In relation to the introduction of smart controls this is addressed in section 16.2.4.4. In relation to Minor Capital works this is addressed in ANS section 16.1.4.3.

16.2.4.3 Labour escalator, WACC and CPI

We have also amended the following inputs into Essential Energy's public lighting model. These amendments are consistent with our draft decision on other relevant aspects of Essential Energy's regulatory proposal.

Labour rates

We substituted the labour rates in Essential Energy's public lighting model with our maximum benchmark rates for technical specialist.

This reflects our draft decision not to accept Essential Energy's proposed hourly rate for technical specialist as part of our assessment of Endeavour Energy's ancillary network services proposal (see section 16.1.4.1).

We note our draft decision on ancillary network services did accept Essential Energy's proposed hourly rate for engineers (EO 7) and for field workers (see section 16.1.4.1).

Rate of return

⁵³ Essential Energy, *Response to AER Information Request #40*, July 2023, p. 2.

⁵⁴ Essential Energy, *Response to AER Information Request #40*, July 2023, p. 1.

We substituted the WACC inputs in Essential Energy’s public lighting model to be consistent with our draft decision on Essential Energy’s rate of return (see attachment 3).

Inflation

We have substituted the forecast inflation input for the 2024–25 year in Essential Energy’s public lighting model with the RBA forecast inflation for December 2023 as a placeholder in this draft decision.⁵⁵ We will update this for actual inflation in our final decision consistent with our final decision on Essential Energy’s control mechanisms.

In addition, we substituted the inflation figures in the public lighting model for the 2022–23 and 2023–24 regulatory years. We included the actual inflation for those years as defined in the control mechanism that applied to Essential Energy in the 2019–24 period.⁵⁶

16.2.4.4 Introducing new services during a regulatory control period

Our draft decision is that Essential Energy must price any new smart lighting services it introduces during the 2024–29 period according to the control mechanism for quoted services. Essential Energy should only introduce new services because customers want them (customer driven). In proposing new services, we require that Essential Energy be able to demonstrate customer support for such prices and services.

Southern Lights submitted its desire for smart lighting controls and its disappointment that Essential Energy is not yet offering this technology. Southern Lights considers smart controls are one of the best methods available to be able to control and reduce the costs councils face in providing public lighting to its residents.⁵⁷

We acknowledge smart technologies have potential to bring significant efficiencies to public lighting services. We therefore encourage distributors to deploy such technologies—with associated pricing—where they can provide benefits to customers.

We understand “smart lighting” or “smart technologies” are catch-all terms for technologies with a variety of applications. These include metering individual lights, as well as dimming based on ambient lighting levels or pedestrian/vehicle activity. Distributors and public lighting customers therefore need to engage on the types of smart lighting solutions appropriate to their needs.

Given its status as an emerging technology, the industry is also deliberating on regulatory issues regarding aspects of these applications such as individually meter lighting installations.

We understand that distributors are at different stages in their deployment of smart technologies. Essential Energy informed us it is running a trial of smart lighting. Essential

⁵⁵ <https://www.rba.gov.au/publications/smp/2023/aug/forecasts.html>

⁵⁶ AER - Final decision, *Essential Energy distribution determination 2019-24 - Attachment 13 - Control mechanisms*, March 2021, p. 12.

⁵⁷ SLC, *Public Lighting Submission*, May 2023, p. 7.

Energy stated they have communicated to councils that they could introduce smart lighting in the future, pending the outcome of this trial.⁵⁸

We are open to Essential Energy introducing regulated pricing for smart lighting during the 2024–29 period where there is demand for such technologies.

Given Essential Energy is still trialling smart lighting, there is likely not enough time for Essential Energy to propose specific prices for smart lighting in its regulatory proposal (see attachment 14 section 14.5.3).

However, we consider Essential Energy can price smart lighting in accordance with the control mechanism formula for quoted services should it introduce such services during the 2024–29 period (see attachment 14 section 14.5.3).

We consider this is consistent with our previous distribution determinations. We stated new alternative control services introduced during a regulatory control period with characteristics that are the same or essentially the same as other alternative control services should be priced as a quoted service until the next regulatory control period (see attachment 14 section 14.5.3).

A point of difference for smart lighting is it is an emerging technology. Hence, there would be no other alternative control services “with characteristics that are the same or essentially the same.” Customer support is therefore vital to introducing such new technologies during the 2024–29 period.

We note Essential Energy needs to be able to demonstrate that the price it charges a customer for smart lighting services reflects the efficient costs of those services, in accordance with the control mechanism formula (see attachment 14 section 14.5.3).

It is worth considering that quoted services generally apply to one-off services. So the control mechanism poses no administrative issues where, for example, a council agrees to pay for smart lighting assets up-front.

However, some councils may prefer to pay for these assets over its economic or useful life. We consider this is possible under the control mechanism for quoted services.

This could involve determining the up-front costs based on the control mechanism formula as a first step. The distributor would then calculate an annual fee using a method appropriate to the service. We consider an annuity approach using the public pricing model—with modifications only as required—is reasonable.

Further information about quoted services and introducing new prices within the 2024–29 period are set out in attachment 14 section 14.5.2.

16.2.4.5 LED cleaning

Our draft decision is to accept Essential Energy’s proposed 6-yearly cleaning cycle for LEDs for the 2024–29 period. However, we encourage Essential Energy, other distributors and

⁵⁸ Essential Energy, *Response to AER Information Request #40*, July 2023, p. 6.

other stakeholders to collaborate on updating the Australian standards in the coming years. We will have regard to such updated standards in future distribution determinations.

For Endeavour Energy’s distribution determination, Western Sydney Regional Organisation of Councils (WSROC) submitted a 10 year cleaning cycle is more appropriate than 6 years.⁵⁹ On the other hand, the Campbelltown City Council and Wollondilly Shire Council appeared to suggest a 10-year maintenance cycle is too long as it raises compliance and safety issues.⁶⁰

Responding to our information request, Essential Energy recommended a 6-year inspection based on requirements under Australian Standards⁶¹ luminaire dirt depreciation factors. Essential Energy considers the standards do not provide for a cleaning cycle beyond 72 months. Under these luminaire dirt depreciation factors, Essential Energy considers it is exercising the longest cleaning cycle practicable to meet a safe Light Loss Factor which represents 6 years.⁶²

We are satisfied with Essential Energy’s proposed 6-year cleaning cycle. We observe all NSW distributors will apply a 6 year cycle for the 2024–29 period.

For further consideration of this topic, please refer to our draft decision for Endeavour Energy.⁶³

⁵⁹ WSROC, *Submission - 2024-29 Electricity Determination - Endeavour*, May 2023, pp. 7–10.

⁶⁰ Wollondilly Shire Council, *Submission - 2024-29 Electricity Determination*, Endeavour Energy - May 2023, p. 2.

⁶¹ AS/NZS 1158.1.1, 3.4.2.

⁶² Essential Energy, *Response to AER Information Request #40*, July 2023, p. 3.

⁶³ AER, *Draft Decision Attachment 16 - Alternative control services - Endeavour Energy - 2024-29 Distribution revenue proposal*, September 2023, section 16.3.4.3.

A Ancillary network services prices

Table A.1 X factors for each year of the 2024–29 regulatory control period for ancillary network services, draft decision (per cent)

	2025–26	2026–27	2027–28	2028–29
X factor	-1.3959%	-0.8524%	-0.7232%	-0.9381%

Note: We do not apply an X factor for 2024–25 because we set 2024–25 ancillary network services prices in this determination. To be clear, the labour escalators in this table are operating as de facto X factors. Therefore, positive labour escalators are represented as negative in this table and vice versa. X factors in this table are rounded to 4 decimal places but distributors should use the raw X factors in the draft decision model.

Table A.2 Fee-based ancillary network services prices for 2024–25, draft decision (\$2024–25)

Service	Service category	Initial proposal	Draft decision
2.1 Substation Commissioning	2. Contestable network commissioning and decommissioning	\$2,544.83	\$2,052.20
2.1 Substation Commissioning - After hours	2. Contestable network commissioning and decommissioning	\$2,989.46	\$2,835.05
2.2 Testing & Commissioning of Streetlights / Mains / Cables / UG Pillars - Underground / Overhead Streetlights	2. Contestable network commissioning and decommissioning	\$170.35	\$137.54
2.2 Testing & Commissioning of Streetlights / Mains / Cables / UG Pillars - Underground / Overhead Streetlights - After hours	2. Contestable network commissioning and decommissioning	\$198.44	\$188.19
2.2 Testing & Commissioning of Streetlights / Mains / Cables / UG Pillars - Underground / Overhead Distribution Mains	2. Contestable network commissioning and decommissioning	\$3,078.85	\$2,459.30
2.2 Testing & Commissioning of Streetlights / Mains / Cables / UG Pillars - Underground / Overhead Distribution Mains - After hours	2. Contestable network commissioning and decommissioning	\$3,625.44	\$3,438.19
2.2 Testing & Commissioning of Streetlights / Mains / Cables / UG Pillars - Underground Pillar / Pits	2. Contestable network commissioning and decommissioning	\$170.35	\$137.54

Service	Service category	Initial proposal	Draft decision
2.2 Testing & Commissioning of Streetlights / Mains / Cables / UG Pillars - Underground Pillar / Pits - After hours	2. Contestable network commissioning and decommissioning	\$198.44	\$188.19
2.2 Testing & Commissioning of Streetlights / Mains / Cables / UG Pillars - Underground Cable Test	2. Contestable network commissioning and decommissioning	\$1,128.55	\$911.17
2.2 Testing & Commissioning of Streetlights / Mains / Cables / UG Pillars - Underground Cable Test - After hours	2. Contestable network commissioning and decommissioning	\$1,314.65	\$1,246.74
2.3 Redundant Material Coordination	2. Contestable network commissioning and decommissioning	\$85.27	\$62.75
2.4 Commissioning - Other Network Equipment - Recloser	2. Contestable network commissioning and decommissioning	\$3,860.87	\$2,962.68
2.4 Commissioning - Other Network Equipment - Recloser - After hours	2. Contestable network commissioning and decommissioning	\$4,613.70	\$4,375.46
2.4 Commissioning - Other Network Equipment - Regulator	2. Contestable network commissioning and decommissioning	\$4,420.90	\$3,389.50
2.4 Commissioning - Other Network Equipment - Regulator - After hours	2. Contestable network commissioning and decommissioning	\$5,281.28	\$5,008.57
2.4 Commissioning - Other Network Equipment - Smart Switch	2. Contestable network commissioning and decommissioning	\$1,656.02	\$1,238.53
2.4 Commissioning - Other Network Equipment - Smart Switch - After hours	2. Contestable network commissioning and decommissioning	\$1,960.74	\$1,859.51
3.1 Notice of Arrangement	3. Notices of arrangement and completion notices	\$585.94	\$464.53
3.2 Request for Early Notice of Arrangement	3. Notices of arrangement and completion notices	\$796.38	\$627.73

Service	Service category	Initial proposal	Draft decision
4.1 Access Permits	4. Access permits, oversight and facilitation	\$4,396.64	\$3,510.46
4.1 Access Permits - After hours	4. Access permits, oversight and facilitation	\$4,818.00	\$4,270.25
4.1 Access Permits - Access Permit Rescheduled (Outage Cancellation)	4. Access permits, oversight and facilitation	\$1,210.12	\$957.84
4.3 Services to supply and connect temporary supply to one or more customers - Connect & disconnect MG to OH/UG mains, switchboard or kiosk	4. Access permits, oversight and facilitation	\$3,436.56	\$2,771.55
4.3 Services to supply and connect temporary supply to one or more customers - Connect & disconnect MG to OH/UG mains, switchboard or kiosk - After hours	4. Access permits, oversight and facilitation	\$3,731.51	\$3,303.40
4.3 Services to supply and connect temporary supply to one or more customers - Install & remove HV LL Links or bonds	4. Access permits, oversight and facilitation	\$4,972.27	\$4,012.08
4.3 Services to supply and connect temporary supply to one or more customers - Install & remove HV LL Links or bonds - After hours	4. Access permits, oversight and facilitation	\$5,541.10	\$5,037.79
4.3 Services to supply and connect temporary supply to one or more customers - Break & remake LV bonds	4. Access permits, oversight and facilitation	\$4,588.99	\$3,702.63
4.3 Services to supply and connect temporary supply to one or more customers - Break & remake LV bonds - After hours	4. Access permits, oversight and facilitation	\$5,094.62	\$4,614.37
6.1 Conveyancing Information	6. Network related property services	\$85.27	\$62.75
7.1 Site Establishment	7. Site establishment services	\$127.91	\$94.13
8.1 Work near electrical assets - De energisation of Mains	8. Network safety services	\$3,481.93	\$2,796.62
8.1 Work near electrical assets - De energisation of Mains - After hours	8. Network safety services	\$3,819.02	\$3,404.45

Service	Service category	Initial proposal	Draft decision
8.2 Work near electrical assets - Disable Auto Reclose	8. Network safety services	\$1,143.36	\$921.60
8.2 Work near electrical assets - Disable Auto Reclose - After hours	8. Network safety services	\$1,196.03	\$1,016.57
8.7 High Load Escorts - High Load Permit (NEW)	8. Network safety services	\$170.54	\$125.51
13.2 Inspection of service work (Level 2 ASP's) - Per NOSW - A Grade	13. Inspection and auditing services	\$77.43	\$56.48
13.2 Inspection of service work (Level 2 ASP's) - Per NOSW - B Grade	13. Inspection and auditing services	\$154.85	\$112.97
13.2 Inspection of service work (Level 2 ASP's) - Per NOSW - C Grade	13. Inspection and auditing services	\$387.13	\$282.41
13.4 Inspection Customer Installation	13. Inspection and auditing services	\$77.43	\$56.48
13.6 Investigation, review & implementation of remedial actions associated with work performed by ASP's - Incident Category 3 - 5 Classification	13. Inspection and auditing services	\$4,955.20	\$3,614.88
13.7 Substation Inspection - Substation Inspection - A Grade	13. Inspection and auditing services	\$619.40	\$451.86
13.7 Substation Inspection - Substation Inspection - B Grade	13. Inspection and auditing services	\$1,083.95	\$790.76
13.7 Substation Inspection - Substation Inspection - C Grade	13. Inspection and auditing services	\$1,393.65	\$1,016.69
14.1 Provision of Training to ASP's for Network Access - Access Permit Recipient Training to ASPs (scheduled course)	14. Provision of training to third parties for network related access	\$429.76	\$313.79
14.1 Provision of Training to ASP's for Network Access - Access Permit Recipient Training to ASPs (requested out of schedule course)	14. Provision of training to third parties for network related access	\$3,608.63	\$2,635.82
14.3 Provision of Training - Entry into Electrical Stations	14. Provision of training to third parties for network related access	\$867.37	\$633.85
15.1 Authorisation of ASPs - Authorisation - Initial	15. Authorisation of ASPs	\$813.48	\$596.18

Service	Service category	Initial proposal	Draft decision
15.1 Authorisation of ASPs - Authorisation - Renewal	15. Authorisation of ASPs	\$213.18	\$156.88
15.2 ASP Authorisation Agreement - Authorisation Agreement - Initial	15. Authorisation of ASPs	\$685.57	\$502.05
15.2 ASP Authorisation Agreement - Authorisation Agreement - Renewal	15. Authorisation of ASPs	\$85.27	\$62.75
16.1 Provision of Security Lighting - Installation Fee	16. Security Lighting	\$293.85	\$237.25
18.1 Provision of metering consumption data	18. Customer requested provision of electricity network data - NEW SERVICE GROUPING	\$42.64	\$31.38
24.4 Connection offer service - Connection application - Auto-approved (NEW)	24. Connection management services - NEW SERVICE GROUPING	\$50.75	\$42.09
24.4 Connection offer service - Connection application - Technical review (NEW)	24. Connection management services - NEW SERVICE GROUPING	\$301.08	\$242.97
24.4 Connection offer service - Connection application - Incomplete information (NEW)	24. Connection management services - NEW SERVICE GROUPING	\$37.55	\$30.13
24.8 Pioneer scheme administration - Establishment	24. Connection management services - NEW SERVICE GROUPING	\$170.54	\$125.51
24.8 Pioneer scheme administration - New connection	24. Connection management services - NEW SERVICE GROUPING	\$170.54	\$125.51
24.11 Reconnections /disconnections - Disconnect - pole top / pillar box	24. Connection management services - NEW SERVICE GROUPING	\$447.16	\$361.03
24.11 Reconnections /disconnections - Reconnect - pole top / pillar box	24. Connection management services - NEW SERVICE GROUPING	\$447.16	\$361.03
24.11 Reconnections /disconnections - Reconnect - outside of normal business hours	24. Connection management services - NEW SERVICE GROUPING	\$255.52	\$206.30

Service	Service category	Initial proposal	Draft decision
26.3 Special meter test - 1st	26. Special meter reading and testing (legacy meters)	\$1,861.00	\$799.54
26.4 Special meter tests - additional	26. Special meter reading and testing (legacy meters)	\$1,053.10	\$483.24
26.5 Special meter tests - CT meter	26. Special meter reading and testing (legacy meters)	\$1,706.15	\$897.44
27.1 Unplanned outage - meter fault (site attendance)	27. Emergency maintenance metering equipment not owned by the distributor (contestable meters)	\$637.94	\$514.86
27.1 Unplanned outage - meter fault (site attendance) - After hours	27. Emergency maintenance metering equipment not owned by the distributor (contestable meters)	\$736.25	\$692.14
27.2 Unplanned outage - meter hot water fault (site attendance)	27. Emergency maintenance metering equipment not owned by the distributor (contestable meters)	\$637.94	\$514.86
27.2 Unplanned outage - meter hot water fault (site attendance) - After hours	27. Emergency maintenance metering equipment not owned by the distributor (contestable meters)	\$736.25	\$692.14
27.3 Unplanned outage - retailer outage impacting non retailer customer (site attendance)	27. Emergency maintenance metering equipment not owned by the distributor (contestable meters)	\$531.04	\$428.44
27.3 Unplanned outage - retailer outage impacting non retailer customer (site attendance) - After hours	27. Emergency maintenance metering equipment not owned by the distributor (contestable meters)	\$608.29	\$567.74
27.4 Unplanned outage - remote de-energisation - EE not notified (site attendance)	27. Emergency maintenance metering equipment not owned by the distributor (contestable meters)	\$531.04	\$428.44
27.4 Unplanned outage - remote de-energisation - EE not notified (site attendance) - After hours	27. Emergency maintenance metering equipment not owned by the distributor (contestable meters)	\$608.29	\$567.74
28.1 Redundant meter disposal	28. Meter recovery and disposal – type 5 and 6 (legacy meters)	\$42.64	\$31.38

Service	Service category	Initial proposal	Draft decision
29.1 Retailer requested distributor planned interruption - Cancellation after notification	29. Distributor arranged outage for purposes of replacing meter	\$766.71	\$609.89
29.2 Retailer requested distributor planned interruption - Initial visit	29. Distributor arranged outage for purposes of replacing meter	\$667.27	\$533.67
29.2 Retailer requested distributor planned interruption - Initial visit - After hours	29. Distributor arranged outage for purposes of replacing meter	\$765.57	\$710.93
29.3 Retailer requested distributor planned interruption - Isolation completed	29. Distributor arranged outage for purposes of replacing meter	\$567.84	\$457.45
29.3 Retailer requested distributor planned interruption - Isolation completed - After hours	29. Distributor arranged outage for purposes of replacing meter	\$659.11	\$622.05
29.4 Retailer requested distributor planned interruption - Early cancellation	29. Distributor arranged outage for purposes of replacing meter	\$78.09	\$62.03
29.5 Retailer requested distributor planned interruption - MC no attendance	29. Distributor arranged outage for purposes of replacing meter	\$525.25	\$423.07
29.5 Retailer requested distributor planned interruption - MC no attendance - After hours	29. Distributor arranged outage for purposes of replacing meter	\$609.51	\$575.01
30.1 Off-peak conversion	30. Other metering services (type 5 to 6 metering installations and legacy meters) - NEW SERVICE GROUPING	\$170.35	\$137.54
31.1 Lighting Services Minor Capital Works (MCW) - MCW: Feasibility assessment fee - 1 asset	31. Public lighting - NEW SERVICE GROUPING	\$460.77	\$364.09
31.1 Lighting Services Minor Capital Works (MCW) - MCW: Feasibility assessment fee - 2 to 5 assets	31. Public lighting - NEW SERVICE GROUPING	\$836.27	\$665.42

Service	Service category	Initial proposal	Draft decision
31.1 Lighting Services Minor Capital Works (MCW) - MCW: Feasibility assessment fee - 6 to 10 assets	31. Public lighting - NEW SERVICE GROUPING	\$1,587.27	\$1,268.08
31.1 Lighting Services Minor Capital Works (MCW) - MCW: Feasibility assessment fee - 11 to 20 assets	31. Public lighting - NEW SERVICE GROUPING	\$2,338.27	\$1,870.74
31.1 Lighting Services Minor Capital Works (MCW) - MCW: Feasibility assessment fee - 21 to 30 assets	31. Public lighting - NEW SERVICE GROUPING	\$3,089.27	\$2,473.40

Table A.3 Quoted service hourly labour rates for 2024–25, draft decision (\$2024–25)

	Initial proposal (business hours)	Draft decision (business hours)	Initial proposal (after hours)	Draft decision (after hours)
R1 - Admin	\$154.10	\$119.58	\$187.20	\$187.20
R2a - Technical specialist - indoor	\$226.20	\$191.40	\$274.78	\$274.78
R2b - Technical specialist - outdoor	\$279.84	\$215.26	\$328.43	\$328.43
R3a - Engineer	\$247.84	\$247.84	\$301.08	\$301.08
R3b - Senior engineer	\$301.09	\$301.09	\$365.77	\$365.77
R3c - Engineering manager	\$371.66	\$345.38	\$451.49	\$451.49
R4 - Field worker	\$230.88	\$196.56	\$268.95	\$268.95

Table A.4 Non-exhaustive list of ancillary network services provided on a quotation basis

Description of service	Description of service
1.1 Design information	13.1 Inspection of construction work (by level 1 ASP's)

Description of service	Description of service
1.2 Design certification	13.3 Re-inspection of work of a service provider (level 1 & level 2 ASP's work)
1.3 Design consultation	13.5 Re-inspection customer installation
1.3 Design consultation: Engineering Advice	13.6 Investigation, review & implementation of remedial actions associated with work performed by ASP's: Incident category 1 -2 classification
1.4 Administration	13.8 Inspection services of privately owned electrical infrastructure assets
1.5 Non - standard design approval	14.1 Provision of training to ASP's for network access: Access permit recipient training to ASPs: requested out of schedule course - travel
2.4 Commissioning - other network equipment: Other – specialised equipment	14.1 Provision of training to ASP's for network access: Access permit recipient training to ASPs: requested out of schedule course – accommodation & incidentals
3.2 Request for early notice of arrangement: Request for early notice of arrangement - field inspection (NEW)	14.2 ASP compliance related training services: ASP compliance related training services: scheduled course
3.3 Completion notice - other than notice of arrangement	14.2 ASP compliance related training services: Access permit recipient training to ASPs: requested out of schedule course - travel
4.2 Access to network assets (standby)	14.2 ASP compliance related training services: Access permit recipient training to ASPs: requested out of schedule course - accommodation & incidentals
4.3 Services to supply and connect temporary supply to one or more customers	14.2 ASP compliance related training services: Materials
4.4 Rectification of contestable work (ASP Installed)	14.3 Provision of training - entry into electrical stations: Additional site visits
5.1 Sale of approved materials / equipment to ASPs	17.1 Design and construction of asset relocations - customer funded
6.2 Easement processing - conveyancing review	18.2 Data requests - network data or consumption data outside of legislative obligations (NEW)
6.3 Services involved in obtaining deeds of agreement (DOA)	19.1 DNSP Provided cable jointing & termination services for contestable work

Description of service	Description of service
6.4 Development applications and encroachment processing	20.1 Authorisation and approval of third party service providers' design, work and materials (NEW)
6.5 Crown land acquisition	21.1 Third party funded network alterations or other improvements (NEW)
6.6 Legal review services - customer funded works	22.1 Standard connection services (NEW)
6.7 Network-related property disbursement (NEW)	23.1 Non-basic negotiated connection (NEW)
8.3 Provision of traffic control by the DSNP	24.1 Connections customer interface co-ordination
8.4 Site safety supervision	24.2 Preliminary enquiry service: Basic
8.5 Provision of construction work by DSNP	24.2 Preliminary enquiry service: Complex
8.6 Warning markers: Design	24.3 Connection / relocation process facilitation
8.6 Warning markers: Installation	24.5 Planning, protection and power quality studies
8.6 Warning markers: Material & contractors	24.6 Additional services requested by ASP/connection applicant
8.7 High load escorts	24.7 Data gathering fee - failure to provide documentation
9.1 Vegetation clearing of private trees encroaching DNSP assets	24.9 Application: Complex connection (NEW)
9.2 Inspection of private trees encroaching DSNP assets	24.10 Connection point management services (NEW)
9.3 Vegetation clearing of private trees encroaching private assets	24.11 Reconnections /disconnections: Illegal connections
9.4 Rectification works by Essential Energy of private asset aerial mains defects	25.1 Enhanced connection service (NEW)
9.5 Rectification works by Essential Energy of DSNP's assets due to landowner encroachment issues	29.3 Retailer requested distributor planned interruption - Isolation completed

Description of service	Description of service
10.1 Retailer of last resort (ROLR)	29.6 Retailer requested planned interruption on high voltage CT metering site, including testing of distributor owned high voltage metering primary and secondary plant - (NEW)
11.1 Planned interruption - customer requested	32.1 Provider of last resort services (NEW)
12.1 Attendance at customers' premises - Statutory Right	

B Public lighting prices

Table B.1 LED 2024–25 Nominal Prices (\$ per year)

LED type	Opex proposed	Opex draft decision	% difference	Capex proposed	Capex draft decision	% difference
23W LED Gerard StreetLED	39.12	34.28	-12.39	79.43	71.46	-10.04
17W LED Gerard StreetLED	39.12	34.28	-12.39	81.53	73.34	-10.04
17W LED Gerard StreetLED Aeroscreen	39.12	34.28	-12.39	83.72	75.31	-10.04
17W LED Gerard StreetLED Louvred	39.12	34.28	-12.39	83.45	75.08	-10.04
22W LED Gerard StreetLED	39.12	34.28	-12.39	81.53	73.34	-10.04
25W LED GE Evolve	39.12	34.28	-12.39	60.63	54.54	-10.04
35W LED Pecan Luminaire	39.12	34.28	-12.39	97.93	88.09	-10.04
29W LED Pecan Luminaire - Aeroscreen	39.12	34.28	-12.39	97.93	88.09	-10.04
42W LED Gerard StreetLED	39.12	34.28	-12.39	83.48	41.72	-50.02
42W LED Pecan Luminaire	49.29	33.59	-31.85	155.80	77.87	-50.02
36W LED Pecan Luminaire - Aeroscreen	49.29	33.59	-31.85	155.80	77.87	-50.02
105W LED Aldridge Luminaire	61.14	41.67	-31.85	245.97	122.93	-50.02
198W LED Aldridge Standard Distribution	61.14	41.67	-31.85	260.28	130.08	-50.02
198W LED Aldridge Forward Distribution	61.14	41.67	-31.85	257.60	128.74	-50.02
298W LED Aldridge Luminaire	61.14	41.67	-31.85	289.43	144.65	-50.02

LED type	Opex proposed	Opex draft decision	% difference	Capex proposed	Capex draft decision	% difference
100W LED Aldridge Luminaire	61.14	41.67	-31.85	259.19	129.54	-50.02
200W LED Aldridge Luminaire	61.14	41.67	-31.85	259.19	129.54	-50.02
300W LED Aldridge Luminaire	61.14	41.67	-31.85	288.18	144.02	-50.02
LED 33W Luminaire StreetLED2 Category P3 Aeroscreen	39.12	34.28	-12.39	77.81	70.00	-10.04
LED 33W Luminaire StreetLED2 Category P3 Aeroscreen + Zhaga	39.12	34.28	-12.39	82.02	73.79	-10.04
LED 17W Luminaire StreetLED3 3000K P4/P5	39.12	34.28	-12.39	65.39	58.83	-10.04
LED 17W Luminaire StreetLED3 3000K P4/P5 + Zhaga	39.12	34.28	-12.39	69.60	62.61	-10.04
LED 17W Luminaire StreetLED3 Louvred Category P4/P5 Reduced RRW	39.12	34.28	-12.39	63.92	57.50	-10.04
LED 17W Luminaire StreetLED3 Louvred Category P4/P5 Reduced RRW + Zhaga	39.12	34.28	-12.39	73.60	66.21	-10.04
LED 25W Luminaire StreetLED3 2200K, 2022lm, 505mA	39.12	34.28	-12.39	69.81	62.80	-10.04
LED 25W Luminaire StreetLED3 2200K, 2022lm, 505mA + Zhaga	39.12	34.28	-12.39	74.02	66.59	-10.04
LED 50W Luminaire RoadLED Midi 4000K, 7614lm, 208mA	61.14	41.67	-31.85	156.37	78.15	-50.02
LED 50W Luminaire RoadLED Midi 4000K, 7614lm, 208mA + Zhaga	61.14	41.67	-31.85	160.58	80.25	-50.02
LED 80W Luminaire RoadLED Midi 4000K, 9509lm, 661mA	61.14	41.67	-31.85	156.37	78.15	-50.02
LED 80W Luminaire RoadLED Midi 4000K, 9509lm, 661mA + Zhaga	61.14	41.67	-31.85	160.58	80.25	-50.02
LED 150W Luminaire RoadLED Midi 4000K, 20321lm, 650mA	61.14	41.67	-31.85	159.52	79.73	-50.02

LED type	Opex proposed	Opex draft decision	% difference	Capex proposed	Capex draft decision	% difference
LED 150W Luminaire RoadLED Midi 4000K, 20321lm, 650mA + Zhaga	61.14	41.67	-31.85	160.58	80.25	-50.02
LED 300W Luminaire RoadLED 4K 4000K, 35254lm, 650mA, Aeroscreen	61.14	41.67	-31.85	219.52	109.71	-50.02
LED 300W Luminaire RoadLED 4K 4000K, 35254lm, 650mA, Aeroscreen + Zhaga	61.14	41.67	-31.85	223.73	111.81	-50.02
LED 27W Luminaire, IGNIS Mini 020 MX2 Square 3000K, 425mA, 3685lm	39.12	34.28	-12.39	77.71	69.90	-10.04
LED 27W Luminaire, IGNIS Mini 020 MX2 Square 3000K, 425mA, 3685lm + Zhaga	39.12	34.28	-12.39	83.76	75.35	-10.04
LED 22W Luminaire, IGNIS Mini 020 MX2 Square 3000K , 275mA, 2506lm	39.12	34.28	-12.39	77.71	69.90	-10.04
LED 22W Luminaire, IGNIS Mini 020 MX2 Square 3000K , 275mA, 2506lm + Zhaga	39.12	34.28	-12.39	83.76	75.35	-10.04
LED 22W Luminaire, IGNIS Mini 020 MX2 Square 3000K, 275mA, 2200lm & Shield	39.12	34.28	-12.39	77.71	69.90	-10.04
LED 22W Luminaire, IGNIS Mini 020 MX2 Square 3000K, 275mA, 2200lm & Shield + Zhaga	39.12	34.28	-12.39	83.76	75.35	-10.04
LED 22W Luminaire, IGNIS Mini 020 MX2 Square 2200K, 350mA, 2811lm	39.12	34.28	-12.39	77.71	69.90	-10.04
LED 22W Luminaire, IGNIS Mini 020 MX2 Square 2200K, 350mA, 2811lm + Zhaga	39.12	34.28	-12.39	83.76	75.35	-10.04

LED type	Opex proposed	Opex draft decision	% difference	Capex proposed	Capex draft decision	% difference
LED 71W Luminaire, IGNIS 1 036 NSW1 Square 4000K, 650mA, 8960lm	61.14	41.67	-31.85	143.95	71.94	-50.02
LED 71W Luminaire, IGNIS 1 036 NSW1 Square 4000K, 650mA, 8960lm + Zhaga	61.14	41.67	-31.85	149.07	74.50	-50.02
LED 49W Luminaire, IGNIS 1 036 NSW1 Square 4000K, 450mA, 6532lm	61.14	41.67	-31.85	143.95	71.94	-50.02
LED 49W Luminaire, IGNIS 1 036 NSW1 Square 4000K, 450mA, 6532lm + Zhaga	61.14	41.67	-31.85	149.07	74.50	-50.02
LED 17W Luminaire GE Evolve 3000K P4/P5	39.12	34.28	-12.39	63.08	56.74	-10.04
Bourke Hill 17W LED Aeroscreen luminaire Top Entry	39.12	34.28	-12.39	247.65	123.79	-50.01
Bourke Hill 34W LED Aeroscreen luminaire Top Entry	39.12	34.28	-12.39	247.65	123.79	-50.01
Bourke Hill 17W LED Aeroscreen luminaire Side Entry	39.12	34.28	-12.39	247.65	123.79	-50.01
Bourke Hill 34W LED Aeroscreen luminaire Side Entry	39.12	34.28	-12.39	247.65	123.79	-50.01
Parkville 80W LED Aeroscreen luminaire Top Entry	61.14	41.67	-31.85	312.85	156.38	-50.01
Parkville 100W LED Aeroscreen luminaire Top Entry	61.14	41.67	-31.85	312.85	156.38	-50.01
Parkville 155W LED Aeroscreen luminaire Top Entry	61.14	41.67	-31.85	322.25	161.08	-50.01
Parkville 80W LED Aeroscreen luminaire Side Entry	61.14	41.67	-31.85	321.21	160.56	-50.01
Parkville 100W LED Aeroscreen luminaire Side Entry	61.14	41.67	-31.85	321.21	160.56	-50.01

LED type	Opex proposed	Opex draft decision	% difference	Capex proposed	Capex draft decision	% difference
Parkville 155W LED Aeroscreen luminaire Side Entry	61.14	41.67	-31.85	330.61	165.26	-50.01
Kensington 17W LED 3000k	39.12	34.28	-12.39	257.70	128.81	-50.01
Kensington 34W LED 3000k	39.12	34.28	-12.39	257.68	128.81	-50.01
LED210-Emilio Catenary 71W	61.14	41.67	-31.85	225.89	112.89	-50.02
LED214-GE Area Lighter Flood Light 150W	61.14	41.67	-31.85	127.70	63.80	-50.04
LED218-GE Area Lighter Flood Light 240W	61.14	41.67	-31.85	144.12	72.00	-50.04
LED222-Sirkel Catenary 100W	61.14	41.67	-31.85	328.02	163.93	-50.02
LED 76W Luminaire, IGNIS 1 036 RMS5 4000K, 675mA	61.14	41.67	-31.85	140.65	70.29	-50.02
LED0240-GE EVOLVE CAT V LEOPARD 204W	61.14	41.67	-31.85	171.96	85.94	-50.02
LED0241-GE EVOLVE CAT V LEOPARD 204W - Zhaga	61.14	41.67	-31.85	171.53	85.72	-50.02
LED0244-GE EVOLVE CAT V LEOPARD 122W	61.14	41.67	-31.85	155.69	77.81	-50.02
LED0245-GE EVOLVE CAT V LEOPARD 122W - Zhaga	61.14	41.67	-31.85	155.26	77.59	-50.02
LED0249-StreetLED3 13.7W 3K DALI	39.12	34.28	-12.39	67.35	60.58	-10.04
LED0250-StreetLED3 13.7W 3K SR + Zhaga	39.12	34.28	-12.39	72.99	65.66	-10.05
LED0253-StreetLED3 24W 3K DALI Aeroscreen	39.12	34.28	-12.39	77.85	70.03	-10.04
LED0254-StreetLED2 24W 3K SR Aeroscreen + Zhaga	39.12	34.28	-12.39	79.52	71.53	-10.05
LED0257- 14W Bourke Hill Mk2 3K TOP ENTRY	39.12	34.28	-12.39	215.39	193.75	-10.04

LED type	Opex proposed	Opex draft decision	% difference	Capex proposed	Capex draft decision	% difference
LED0258- 14W Bourke Hill Mk2 3K SIDE ENTRY	39.12	34.28	-12.39	212.85	191.47	-10.05
LED0260- 16W Kensington 3000k	39.12	34.28	-12.39	252.25	226.91	-10.04
LED0262- 24W Bourke Hill Mk2 3K TOP ENTRY	39.12	34.28	-12.39	212.85	191.47	-10.05
LED0264- 24W Bourke Hill Mk2 3K SIDE ENTRY	39.12	34.28	-12.39	215.39	193.75	-10.04
LED0266- 30W Kensington 3000k	39.12	34.28	-12.39	256.03	230.31	-10.05
LED0268- 80W Parkville Mk2 4K TOP ENTRY	61.14	41.67	-31.85	282.80	141.33	-50.02
LED0270- 80W Parkville Mk2 4K SIDE ENTRY	61.14	41.67	-31.85	288.69	144.27	-50.02
LED0272- 100W Parkville Mk2 4K TOP ENTRY	61.14	41.67	-31.85	282.80	141.33	-50.02
LED0274- 100W Parkville Mk2 4K SIDE ENTRY	61.14	41.67	-31.85	288.69	144.27	-50.02
LED0276- 150W Parkville Mk2 4K TOP ENTRY	61.14	41.67	-31.85	292.28	146.07	-50.02
LED0278- 150W Parkville Mk2 4K SIDE ENTRY	61.14	41.67	-31.85	298.17	149.01	-50.02
LED0280- 14W Avenue Mk2 3K TOP ENTRY	39.12	34.28	-12.39	176.42	158.70	-10.04
LED0282- 14W Avenue Mk2 3K SIDE ENTRY	39.12	34.28	-12.39	173.89	156.42	-10.05
LED0284- 17W B2001 Mk2 3K	39.12	34.28	-12.39	197.48	177.65	-10.04
LED0286- 24W Avenue Mk2 3K TOP ENTRY	39.12	34.28	-12.39	173.89	156.42	-10.05
LED0288- 24W Avenue Mk2 3K SIDE ENTRY	39.12	34.28	-12.39	176.42	158.70	-10.04
LED0290- 28W B2001 Mk2 3K	39.12	34.28	-12.39	194.95	175.37	-10.05

LED type	Opex proposed	Opex draft decision	% difference	Capex proposed	Capex draft decision	% difference
LED0292-GE Area Lighter Flood Light 500W	61.14	41.67	-31.85	291.22	145.54	-50.02

Table B.2 Supports, Brackets, Night Patrols 2024–25 Nominal Prices (\$ per year)

	Opex proposed	Opex draft decision	% difference	Capex proposed	Capex draft decision	% difference
7.5m Steel Column Single Outreach	16.31	15.88	-2.61	169.56	169.52	-0.03
7.5m Steel Column Double Outreach	16.31	15.88	-2.61	177.15	177.11	-0.03
9.0m Steel Column Single Outreach	16.31	15.88	-2.61	242.52	242.47	-0.02
9.0m Steel Column Double Outreach	16.31	15.88	-2.61	279.04	278.99	-0.02
10.5m Steel Column Single Outreach	16.31	15.88	-2.61	335.68	335.58	-0.03
10.5m Steel Column Double Outreach	16.31	15.88	-2.61	388.65	388.54	-0.03
12.0m Steel Column Single Outreach	16.31	15.88	-2.61	382.60	382.49	-0.03
12.0m Steel Column Double Outreach	16.31	15.88	-2.61	391.29	391.17	-0.03
12m Roundabout Column	16.31	15.88	-2.61	520.52	520.38	-0.03
15m Roundabout Column	16.31	15.88	-2.61	447.87	447.72	-0.03
18m Roundabout Column	16.31	15.88	-2.61	774.38	774.20	-0.02
9.5m Timber Pole	18.76	18.27	-2.61	106.41	106.36	-0.05
11m Timber Pole	18.76	18.27	-2.61	151.85	151.79	-0.04
12.5m Timber Pole	18.76	18.27	-2.61	167.58	167.52	-0.04
14m Timber Pole	18.76	18.27	-2.61	178.21	178.14	-0.04
15.5m Timber Pole	18.76	18.27	-2.61	189.55	189.47	-0.04

	Opex proposed	Opex draft decision	% difference	Capex proposed	Capex draft decision	% difference
Decorative Category P Column	16.31	15.88	-2.61	233.43	233.36	-0.03
Suspended	37.52	36.54	-2.61			
Night Patrol Per Asset Inspection	11.85	11.54	-2.61			
Streetlight Bracket Category P				18.41	18.40	-0.02
Streetlight Bracket Category V				33.54	33.53	-0.03

Table B.3 Traditional Luminaire 2024–25 Nominal Prices (\$ per year)

Traditional luminaire type	Opex proposed	Opex draft decision	% difference	Capex proposed	Capex draft decision	% difference
Tubular Fluorescent <40W	60.72	59.13	-2.62			
Tubular Fluorescent >40W	66.16	64.42	-2.62	25.81	25.77	-0.15
42W CFL Standard	95.31	92.82	-2.62	34.29	34.17	-0.34
42W CFL Decorative	95.31	92.82	-2.62	96.71	96.37	-0.35
70W CFL Decorative	95.31	92.82	-2.62	70.74	70.49	-0.36
32W Compact Fluorescent	55.87	54.41	-2.62	92.23	92.19	-0.04
2x14W T5 Fluoro	84.60	82.39	-2.62			
2x24W T5 Fluoro	77.08	75.05	-2.62			

Traditional luminaire type	Opex proposed	Opex draft decision	% difference	Capex proposed	Capex draft decision	% difference
50W High Pressure Sodium	116.14	113.10	-2.62			
50W High Pressure Sodium - Twin Arc	82.22	80.07	-2.62	32.55	32.46	-0.26
70W High Pressure Sodium	109.90	107.03	-2.62	32.19	32.04	-0.46
70W High Pressure Sodium - Twin Arc	76.18	74.18	-2.62	33.55	33.46	-0.27
100W High Pressure Sodium	109.90	107.03	-2.62			
120W High Pressure Sodium	150.69	146.75	-2.61			
150W High Pressure Sodium	150.69	146.75	-2.61	70.19	70.02	-0.24
150W High Pressure Sodium - Twin Arc	139.65	135.99	-2.62	72.03	71.85	-0.25
220W High Pressure Sodium	123.52	120.29	-2.62			
250W High Pressure Sodium	123.52	120.29	-2.62	70.23	70.11	-0.16
250W High Pressure Sodium - Twin Arc	150.75	146.81	-2.62	78.35	78.15	-0.25
2x250W High Pressure Sodium	159.00	154.85	-2.61			
310W High Pressure Sodium	123.52	120.29	-2.62			
360W High Pressure Sodium	115.78	112.75	-2.62	81.21	81.13	-0.11
400W High Pressure Sodium	115.78	112.75	-2.62	81.21	81.13	-0.11
400W High Pressure Sodium - Twin Arc	145.62	141.81	-2.62	84.54	84.33	-0.25

Traditional luminaire type	Opex proposed	Opex draft decision	% difference	Capex proposed	Capex draft decision	% difference
400W MH Standard Luminaire	145.62	141.81	-2.62	83.43	83.22	-0.25
2x400W High Pressure Sodium	191.03	186.04	-2.61			
3x400W High Pressure Sodium	212.04	206.50	-2.61			
600W High Pressure Sodium	197.11	191.95	-2.62			
1000W High Pressure Sodium	178.97	174.30	-2.61			
Incandescent 60	80.40	78.29	-2.62			
Incandescent 75	80.40	78.29	-2.62			
Incandescent 100	80.40	78.29	-2.62			
Incandescent 150	80.40	78.29	-2.62			
Incandescent 200	80.40	78.29	-2.62			
Incandescent 300	80.40	78.29	-2.62			
Incandescent 500	80.40	78.29	-2.62			
Incandescent 1500	80.40	78.29	-2.62			
55W Low Pressure Sodium	112.45	109.51	-2.62	70.19	70.02	-0.24
100W Low Pressure Sodium	244.68	238.29	-2.61	70.19	70.02	-0.24
135W Low Pressure Sodium	459.10	447.12	-2.61			
150W Low Pressure Sodium	459.10	447.12	-2.61			

Traditional luminaire type	Opex proposed	Opex draft decision	% difference	Capex proposed	Capex draft decision	% difference
310W Low Pressure Sodium	459.10	447.12	-2.61			
70W Metal Halide	102.86	100.17	-2.62			
150W Metal Halide	102.86	100.17	-2.62			
250W Metal Halide	102.86	100.17	-2.62	70.23	70.11	-0.16
400W Metal Halide	104.55	101.81	-2.62	70.23	70.11	-0.16
1000W Metal Halide	178.97	174.30	-2.61	151.15	150.90	-0.17
50W Mercury Vapour	59.93	58.36	-2.62	25.81	25.77	-0.15
80W Mercury Vapour	59.33	57.78	-2.62	25.81	25.77	-0.15
125W Mercury Vapour	82.50	80.34	-2.62			
250W Mercury Vapour	128.91	125.54	-2.61	70.19	70.02	-0.24
400W Mercury Vapour	118.81	115.71	-2.62	70.19	70.02	-0.24
2x400W Mercury Vapour	135.96	132.40	-2.62	70.19	70.02	-0.24
250W HPS Asymmetric Floodlight	123.52	120.29	-2.62	90.83	90.68	-0.17
400W HPS Asymmetric Floodlight	115.78	112.75	-2.62	92.90	92.80	-0.11
250W MH Asymmetric Floodlight	102.86	100.17	-2.62	88.11	88.05	-0.07
400W MH Asymmetric Floodlight	104.55	101.81	-2.62	90.83	90.77	-0.06

Shortened forms

Term	Definition
AEMC	Australian Energy Market Commission
AER	Australian Energy Regulator
capex	capital expenditure
CCP26	Consumer Challenge Panel, sub-panel 26
CPI	consumer price index
F&A	framework and approach
LED	light-emitting diode
NEM	national electricity market
NER	national electricity rules
NMI	national meter identifier
opex	operating expenditure
PE cell	photoelectric cell
RBA	Reserve Bank of Australia
RIN	regulatory information notice
WACC	weighted average cost of capital
